

REMARKS

Favorable reconsideration of this application, in light of the preceding amendments and following remarks, is respectfully requested.

Claims 1-16 are pending in this application. Claims 8 and 10 are amended. No claims have been added or cancelled. Claims 1 and 10 are the independent claims.

The Applicants note with appreciation the Examiner's acknowledgement that certified copies of all priority documents have been received by the U.S.P.T.O. Action, summary at 12.

The Applicants also respectfully note that the present action does not indicate that the drawings have been accepted by the Examiner. The Applicants respectfully request that the Examiner's next communication include an indication as to the acceptability of the filed drawings or as to any perceived deficiencies so that the Applicants may have a full and fair opportunity to submit appropriate amendments and/or corrections to the drawings. Action, summary at 10.

Claim Objections

Claim 11 is objected to under 37 C.F.R. 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. The amendment to claim 10 obviates the objection.

Reconsideration and withdrawal of the objection is respectfully requested.

Rejections under 35 U.S.C. §112

Claims 8 and 9 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention.

The Examiner asserts that the phrase "the gate width is at least equal to one-half of a first length equal to the shorter of the third and fourth side wall segments and is less than second

length equal to the longer of the third and fourth side wall segments" is indefinite because it is not clear the definition of the gate width. The Applicant has amended claim 8 to clarify the definition of the gate width.

Thus, Applicants respectfully request that the Examiner withdraw the rejection of claims 8 and 9.

Rejections under 35 U.S.C. §102 and §103

The Examiner relies on the abstract and drawings of Inoue in issuing the § 102(b) and § 103(a) rejections. In order to be able to respond fully to the § 102(b) and § 103(a) rejections by the Examiner, Applicant requests that an English-language translation of Inoue be made available to the Applicants and that the next office action be made non-final.¹

Inoue

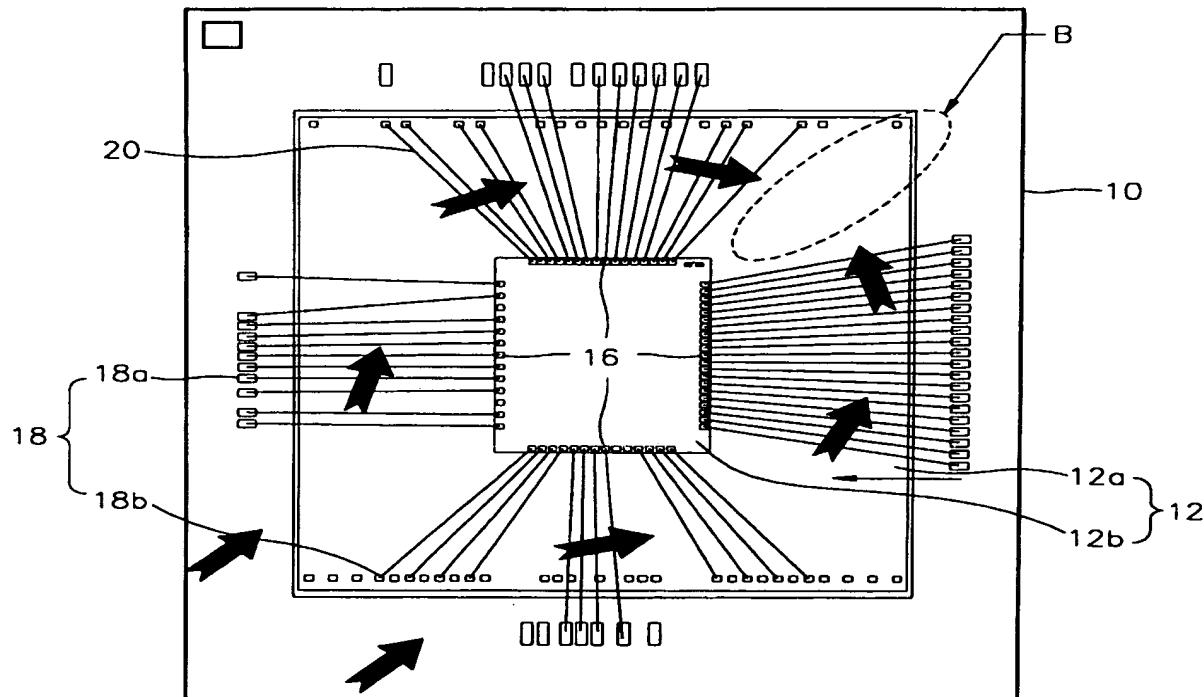
Claims 1-5, 7 and 10 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Inoue (JP 11-176855 A). The Applicants respectfully traverse this rejection for the reasons detailed below.

Independent claims 1 and 10 recite "wherein the gate is arranged relative to the semiconductor chip whereby mold resin entering the cavity through the gate will contact the side surfaces of the semiconductor chip at an angle of less than about 70°". Example non-limiting embodiments of this feature are discussed, for example, in paragraph [0037] and FIG. 5 of the instant specification. Inoue, as relied upon by the Examiner, fails to anticipate or suggest "wherein the gate is arranged relative to the semiconductor chip whereby mold resin entering the cavity through the gate will contact the side surfaces of the semiconductor chip at an angle of less than about 70°" as recited in independent claims 1 and 10.

¹ See MPEP § 706.02. "If the document is in a language other than English and the Examiner seeks to rely on that document, a translation must be obtained so that the record is clear as to the precise facts that the Examiner is relying upon in support of the rejection."

The chip orientation in relation to the gate is explained in paragraph [0037] of the present specification. When mold resin is injected into the cavity and flowing in a direction diagonal to the side surfaces, the semiconductor chip 12 meets a forward corner of the lower semiconductor chip 12b and/or the upper semiconductor chip 12a. Then, it separates to flow around both sides of the chip(s). As a result, the separated flows of the mold resin tend to meet at a region near the rear corner of the semiconductor chip 12 opposite the forward corner.

FIG. 5



Applicants have thoroughly searched Figs. 1-4 and cannot find any reference to a semiconductor chip or the orientation of the semiconductor chip in relation to the molding cavity. In fact, the Examiner admits that the abstract and drawings are silent as to the orientation of the chip in relation to the molding cavity. See p. 4 of the Office Action.

The Applicants, therefore, respectfully request that the rejection to Claims 1 and 10 under 35 U.S.C. §102(b) be withdrawn.

The Examiner states that “it is inherent that the gate is positioned at an angle of less than 90° with respect to the chip”. The Examiner's speculation that the above-identified components are present in Inoue is not sufficient to establish the inherency of that result or characteristic. See MPEP § 2112; *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981).

To the contrary, in establishing that these components are inherent, the missing components must be necessarily present in the apparatus described in the reference(s) such that the presence of these elements would be recognizable by persons of ordinary skill. *Id.* Inherency may not be established by probabilities or possibilities. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). The Examiner has not established that the additional features set forth in claims 1 and 10 are inherent to the resin sealed semiconductor device of Inoue. Therefore, the rejection of claims 1 and 10 should be withdrawn, because the Examiner has not established why these additional features must be necessarily present in the resin sealed semiconductor device of Inoue.

The Applicants, therefore, respectfully request that the rejection to Claims 1 and 10 under 35 U.S.C. §102(b) be withdrawn for these additional reasons.

Claims 2-5 and 7, dependent on independent claim 1, are patentable for the reasons stated above with respect to claims 1 and 10 as well as for their own merits.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection to independent claims 1 and 10 and all claims dependent thereon.

Inoue/Shibata and Inoue/Shih

Claims 12-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Inoue taken together with Shibata (U.S. Patent No. 5,750,153). Claim 6 stands rejected under 35

U.S.C. § 103(a) as being unpatentable over Inoue taken together with Shih et al. (U.S. Patent No. 6,717,248). The Applicants respectfully traverse this rejection for the reasons detailed below.

As previously described, Inoue fails to anticipate or suggest at least the feature of “wherein the gate is arranged relative to the semiconductor chip whereby mold resin entering the cavity through the gate will contact the side surfaces of the semiconductor chip at an angle of less than about 70°” as recited in claims 1 and 10. Dependent claims 6 and 12-16 depend from independent claim 1 and therefore include the features of independent claim 1.

Even assuming, *arguendo*, that Inoue and Shih or Inoue and Shibata were combinable (which Applicants do not admit), Applicants submit that none of the cited references, either alone or in any proper combination, cure the deficiencies of Inoue with respect to at least the previously identified feature of independent claim 1.

The Applicants, therefore, respectfully request that the rejection to Claims 6 and 12-16 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-16 in connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John A. Castellano at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, Dickey, & PIERCE, P.L.C.

By

John A. Castellano, Reg. No. 35,094

P.O. Box 8910
Reston, Virginia 20195
(703) 668-8000

JAC/EGH/cm